for sale,—the flesh, all musk-flavoured as it is, being devoured by the omnivorous Chinaman. They go by the name of the Hai-nan-gong, or "booby of Hai-nan."

151. LARUS CANUS, Linn.

152. LARUS FUSCUS, Linn.

These two, and three other species not identified, are all winter visitants, and are most abundant in the harbour during windy or stormy weather.

153. GAVIA KITTLITZII, Bruch. (*L. melanorhynchus,* Temm.?)

Very common during winter.

154. STERNA CASPIA, Pall.

A winter visitant.

155. STERNA CRISTATA, Steph.

Nestles on some neighbouring rocky islands and in great numbers at Kelung (N. Formosa).

156. STERNA MINUTA, Linn.

Rare here; breeds in great numbers on the rock-bound coast of southern Formosa.

157. HYDROCHELIDON JAVANICA (Horsf.).

Rare.

158. PELECANUS CRISPUS, Bruch. (*P. philippensis,* Gmel.)

A few frequent the mouth of the river every winter.

159. PHALACROCORAX CARBO (Linn.).

Common in winter, assembles in flocks in spring, which leave us to pass the summer months elsewhere.

VII.—*On the Ornithology of Northern Africa.* By the Rev. H. B. TRISTRAM, M.A., F.L.S. (Part III. *The Sahara, continued.*)

[Continued from vol. i. p. 435.]

99. COLUMBA LIVIA. (Rock Dove.) *"Goomri,"* Arab.

Common in all the rocky gorges, wherever there is a little vegetation, and often met with in the cultivated patches about the oases.

100. Columba œnas. (Stock Dove.)

I shot several out of a large flock of this bird in the Dayat of Tihlremet, between El Aghouat and the M'zab country, in the month of November. This was the only occasion on which I met with it in the Sahara, but it is very common in all the wooded districts of the Atlas.

101. Turtur ægyptiacus. (Egyptian Turtle-dove.) "*Hammam,*" Arab.

It is singular that whilst the common Turtle-dove (*Turtur risorius*), so abundant throughout Algeria in summer, is never seen except on passage in the Sahara, the Palm-dove, as this species is well named, remains throughout the year, but never advances further north than the date-tree, from which it is inseparable. Among these palms it swarms to an incredible extent. Whenever we rested at an oasis it supplied us abundantly with our sole animal food. It was unnecessary to do more than take one's stand in a garden, and fire as fast as one could load the fowling-piece, till the bag was filled. Every tree had, not its pair, but several pairs. Their nests are huddled about the crest at the base of the leaves. Probably from being undisturbed, these doves are very tame, and will scarcely take flight at the report of a gun directly underneath them. At Biskra, where the French officers appreciate the excellence of their flesh, they are both wild and comparatively scarce. Their flight is less vigorous than that of the common Turtle-dove, and they do not expand their tails in the same manner. The nest of this dove is very slight, and the eggs only slightly smaller than those of its congener. I was told they have at least two broods a year.

102. Pterocles arenarius. (Common Sand-grouse.) "*El Koudhre,*" Arab.

Though less abundant than the following species, the Black-breasted Sand-grouse is universally distributed throughout the Sahara, excepting in the extreme south, where it gives place to *Pterocles senegalus*. There is much of the Plover character in the flight and manner of this tribe; and the first time I observed a covey on the wing, I took them for some large plovers, until within shot. The flocks of this species are generally smaller than those of its congener, though all the class appear to be more or less gregarious even in the breeding season, several pairs generally nesting close to each other. The *P. arenarius* is not so wary as *P. alchata,* perhaps from its upper plumage assimilating more closely to the sand in colour; but when alarmed it crouches to the ground, carefully concealing its dark breast, and does not take wing until approached very closely. Then it suddenly rises to a considerable height, and flies often to a great distance. These birds chiefly feed towards sunset, when their call-note, resembling that of a partridge, may be heard incessantly until after dark. As if to show that in some respects they are a link between *Gallinæ* and *Columbidæ,* they never lay more than three eggs, this being the invariable number of the genus. These are of a character most unlike those of any other gallinaceous bird with which I am acquainted, being extremely elongated, compressed in the centre, and exactly the same size at each end—in fact, perfectly elliptical. This character is common to the eggs of five species of *Pterocles* which I possess. The eggs are placed two in a line, and the third lengthways outside them, in a depression in the sand, without any nest. The bird in sitting, as I have observed, lies on one side, spreading out one wing to cover the eggs, thus presenting a grotesque lopsided appearance; but it is a posture for which the deep keel of her sternum admirably adapts her.

The flesh of the Sand-grouse is extremely white, but very poor and dry, without any flavour. We never discovered any mode of cooking by which it could be rendered tasty, or even palatable. I have seen both the common species thrive well in captivity, and almost domesticated in the court-yards of Arabs' houses.

103. PTEROCLES ALCHATA. (Pintailed Sand-grouse.) "*El Guett'ha,*" Arab.

Though this bird does not approach so near the verge of cultivation northwards as the former, it is far more generally abundant, and continues to occur in vast flocks in winter in the M'zab and Touarick country, where I never saw *P. arenarius.*

Its plumage is far more richly marked, and I think that on close inspection there is scarcely a bird in nature which surpasses the male *P. alchata* in richness of colouring or delicacy of pencilling. Alas, that such handsome plumage should clothe such *very* dry bones! Except during the breeding-season, it is very difficult of approach; and when packed in winter, it is vain to attempt a second shot, unless well mounted. Its flight is stronger and more vigorous than its congener's; and its sharp-pointed long wings give it all the power of a plover. It is very garrulous when on the ground, and often betrays itself by its call-note long before it can be distinguished by the eye from the surrounding sand.

Its breeding habits are exactly like those of *P. arenarius*; but its egg is of a much richer fawn-coloured tint, covered and sometimes zoned with large maroon-red blotches, while that of the other is of a paler hue, with obsolete pale brown blotches.

104. PTEROCLES CORONATUS. (Spotted Sand-grouse).

Confined to the more southern portions of the Sahara, where it supplants the first species. It is a much smaller bird. I found it only in very small companies of four or five; but this may be owing to the extreme scarcity of plants in the district where it roams. The egg is of an ashy white, with a few almost obliterated pale-brown markings.

105. PTEROCLES SENEGALUS. (Senegal Sand-grouse).

Also confined to the extreme south, but more plentiful than the last-named species. I have seen and shot it in company with *Pterocles alchata.* I obtained only one nest. The egg has a ground-colour similar to that of *P. alchata*; but it is scarcely more than half the size, and has very faint brown spots. The Arabs do not seem to distinguish between the two last-named species.

In all the family the contrast between the plumage of the sexes is very striking,—in none more so than in this species.

There is a fifth species of *Pterocles,* which I have seen near Waregla and in the Chamba country, but which I was unable to procure.

106. Caccabis petrosa. (Barbary Partridge.) "*El Hadjel,*" Arab.

Long after I imagined we had bid adieu to our familiar friend of the Atlas, I was astonished at putting up in the Wed N'ça, south of the M'zab country, a strong covey of this partridge, in a district where water is found only for three months of the year, and where vegetation is entirely confined to the narrow gorge of the Wed. The birds had evidently been reared here, and had no conception of a world beyond, for nothing would induce them to take flight towards the plain on either side; and, flesh meat being a rarity in our larder, we pursued them up and down until we obtained five birds. They were much smaller than the partridge of Algeria, the specimens I preserved being about one-third less than the average size, and the plumage of a paler and less distinct hue; reminding one in the former respect of the small Grey Partridge of the Scotch hills and the Pyrenees.

107. Coturnix communis. (Common Quail.) "*Mell'houa,*" Arab.

Occasionally met with in spring, apparently on passage.

108. Turnix africanus. (Andalusian Hemipode.)

I have some doubt whether this bird, so peculiarly a denizen of the thick scrub of the Atlas, can be reckoned in the Saharan catalogue; but French officers have assured me that they occasionally find it in the hills between Djelfa and El Aghouat. I have not met with it there myself, but so shy and solitary a bird might easily escape observation.

109. Struthio camelus. (The Ostrich.) "*N'hâma,*" Arab.

To enter upon a full history of "the pride of the Desert" would be out of place here, especially if the tales of the Arabs were incorporated in its annals. Unfortunately there is but little opportunity for testing from personal observation the truth of the characteristics attributed to the Ostrich by the natives, who ascribe to it a strange mixture of sagacity and simplicity. The capture of the Ostrich is the greatest feat of hunting to which the Arab sportsman aspires, and in richness of booty it ranks next to the plunder of a caravan. But such prizes are not to be obtained without cost and toil, and it is generally estimated that the capture of an Ostrich or two must be at the sacrifice of the lives of two horses. So wary is the bird, and so open are the vast plains over which it roams, that no ambuscades or artifices can be employed, and the vulgar resource of dogged perseverance is the only mode of pursuit. The horses to be employed undergo a long and painful training, abstinence from water and a diet of dry dates being considered the best means for strengthening their wind. The hunters set forth with small skins of water strapped under their horses' bellies, and a scanty allowance of food for four or five days, distributed judiciously about their saddles. The Ostrich generally lives in companies of from four to six individuals, which do not appear to be in the habit, under ordinary circumstances, of wandering more than twenty or thirty miles from their head-quarters. When descried, two or three of the hunters follow the herd at a gentle gallop, endeavouring only to keep the birds in sight, without alarming them or driving them at full speed, when they would soon be lost to view. The rest of the pursuers leisurely proceed in a direction at right angles to the course which the ostriches have taken, knowing by experience their habit of running in a circle. Posted on the best look-out they can find, they await for hours the anticipated route of the game, calculating upon intersecting their path. If fortunate enough to detect them, the relay sets upon the now fatigued flock, and frequently succeeds in running one or two down, though a horse or two generally falls exhausted in the pursuit. The Ostrich, when overtaken, offers no resistance beyond kicking out sideways. A skin in full plumage is worth on the spot from 40 to 100 Spanish dollars; but the Arabs are in the habit of judiciously thinning the feathers, so that the trader can rarely obtain a specimen on which this tax has not been paid.

I have frequently seen the Ostrich domesticated without being in captivity. The Bey of Tuggurt kept several in a large courtyard where they had free egress and ingress, but they showed no inclination to escape. They lived in very good fellowship with the numerous horses, asses, and camels of the establishment, but had an admitted precedence, and would stretch their long necks over the shoulders of any of their companions and select corn or dates from the nosebag. If any spirited colt or grumbling camel showed an inclination to resist, a side kick in the ribs very soon brought him to submission. To strange horses they exhibited a decided aversion, and would walk quietly alongside one, and then suddenly strike out with one leg at right angles to their bodies,—a most clumsy-looking but a very effective mode of attack. I remember seeing another, apparently public property, in the market of Tamerna, who would go round and levy willing contributions from the venders of dates and barley, and who slept at night (I suppose I must not say roosted) in the open square. But he presented a very beggarly appearance; for, in return for the alms he received, he had yielded to his caterers every feather in his body.

Once, and once only, had I the good fortune to take an Ostrich's nest; though fresh eggs were frequently brought in by the Arabs. There is something irresistible to the Nomad in the charm of an Ostrich-chase; and, often as our exhausted horses had suffered from the vain pursuit, it was almost impossible to hold in our servants, when the alarm was given, from wildly galloping over the plain. On this occasion, however, we had observed with our telescopes two birds standing for some time in one spot, and were induced to ride towards them. By great good fortune we detected their track as we crossed it; for, the stride of the Ostrich often measuring, when at full speed, from 22 to 28 feet, and there being simply the round impression of his two toes, it is very difficult to discover its course. We traced these steps back to the spot where we had seen the birds standing, and where the sand was well trodden down. Two Arabs at once dismounting began to dig with their hands, and presently brought up four fine fresh eggs from a depth of about a foot under the warm sand. I may remark that the egg of the North African Ostrich seems to differ decidedly from that of the Cape bird. I have seen hundreds of specimens, and always found them rather larger than the southern eggs which we generally see in England, and quite smooth, with an ivory-polished surface and free from any punctures. Until I found the eggs myself, I was under the impression that they might be polished by the Arabs; but this is a mistake. The eggs are applied to various uses by the natives, chiefly as ornaments for their tents, drinking-cups and workboxes, but above all for the embellishment of the mosques, where long rows are suspended from the arches or rafters, and of the burying-grounds, where each grave, especially at Waregla and Ngoussa, is decorated with an Ostrich-egg set in mortar at the head and at the foot, the Shieks being honoured with from twelve to twenty each—sometimes planted all round the grave, sometimes built into a pyramidal shape at the head.

The Ostrich appears to lay from the beginning of December to March—at least, fresh eggs are to be obtained throughout that period; but I was unable to ascertain either the time of incubation or the number of the brood, as no dependence can be placed on the Arab stories on these points. From all I could learn, the number of eggs is not less than twelve; and the young are generally hatched about the end of February. The hunters all agree, that, though the parent bird covers the eggs with sand during the day, she incubates them herself at night, and that her mate remains in attendance by her.

It will be interesting to ascertain, by a comparison of living specimens, whether there be any distinction between the bird of the North and South African deserts, as seems to be indicated by the eggs[*].

110. Otis tetrax. (Little Buzzard.) "*Rha'ahd, Rha'ahda,*" Arab.

Found only in the plains on the north of the Sahara, and seldom beyond the limits of barley cultivation. On its migration it occurs in the southern oases for a few days together.

111. Houbara undulata. (Ruffled Bustard.) "*Houbara,*" Arab.

Occurs throughout the Sahara, but becomes very scarce southward, though most abundant in the neighbourhood of the Dayats and to the edge of the Chebkha M'zab. A description of the mode of chasing the Houbara is given in 'The Ibis,' vol. i. p. 284. Its nidification does not call for any remarks. The complement of eggs appears to be three, sometimes only two. Unlike the Little Bustard, it is a permanent resident.

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[*] When the young Ostriches from the Cape, presented by Sir George Grey to the Zoological Society of London, are as fully grown as their companions from Barbary, in the Gardens of the same Society, this may be done without difficulty. Prince Charles Bonaparte has already distinguished an Ostrich as *Struthio epoastichus* (C. R. xliii. p. 841); but I am not sure that this name is intended for either the Northern or Southern Bird.—Ed.

112. ŒDICNEMUS CREPITANS. (Norfolk Plover.) "*Kheèroona*," Arab.

Common in the Northern Sahara throughout the year.

113. GRUS CINEREA. (Common Crane.) "*Rhernoug*," Arab. On passage in spring and autumn, sometimes halting for a time in the salt marshes.

114. ANTHROPOÏDES VIRGO. (Numidian Crane.) A small flock of this graceful and interesting bird might generally be seen quitting one margin of a salt pond as we approached the opposite edge. My acquaintance being so distant, I can only add my testimony to the truth of their attachment to the Terpsichorean art from the habits of four kept in the court-yard of General Yussuf at Blidah, which I have seen performing a stately minuet in concert for an hour together.

115. BALEARICA PAVONINA. (Balearic Crane.) I once, and once only, observed a pair of these fine Cranes on the dry sands of the Guerah-el-Tharf in the month of April.

116. CICONIA ALBA. (White Stork.) "*Belerdj*," Arab. Respected in the Sahara as in Holland, a welcome visitor and a cherished friend. It builds on the tops of the "semaurs" or mosque towers of the M'zab; but even there, no less than in chilly Denmark, "the Stork knoweth her appointed times," and retires in November. Its food there consists of Lizards of the desert. Protected as it is by universal public opinion, it still shows a considerable degree of anxious suspicion for its young, and, when introducing them to the feeding-grounds in the salt marshes, is the first to give the alarm of a stranger's approach to the Cranes and Herons around it.

117. **Ardea cinerea.** (Common Heron.) "*Bou Auk.*" Arab.
Occasionally to be seen in the ditches and salt marshes of the oases in winter.

118. **Ardea purpurea.** (Purple Heron.)
In the same localities, but far more numerous; never, however, so far as I know, gregarious in winter.

119. **Herodias alba.** (White Egret.) "*Aï zouch,*" Arab.
Three or four of these magnificent Herons used to resort to the salt lake of Waregla. Again, I met with them at Dzouia, Temaçin, Tamerna, and Tuggurt, but always in small flocks and very shy. Never found, like their congeners, in the ditches or under palm-trees, but in the wide open marshes and chotts, where they were extremely wary. They are only winter visitants to the Sahara. I was informed that they breed near Benzert on the Tunisian coast, but did not see them there.

120. **Herodias garzetta.** (Little White Egret.)
Universally distributed in small numbers wherever a suitable locality exists, and frequenting familiarly the gardens and ditches of the oases. It breeds in society on the lake Fetzara, and doubtless in more southern marshes also. Vide 'Ibis,' vol. i. p. 358.

121. **Bubulcus ibis.** (Buff-backed Heron.)
Very common throughout the year about oases.

122. **Buphus comatus.** (Squacco Heron.)
In small companies about marshes. Vast flocks resort to the lakes of Tuggurt, a portion only of which, as I am informed, remain to breed.

123. **Ardetta minuta.** (Little Bittern.)
Generally distributed and resident.

124. **Botaurus stellaris.** (Common Bittern.)
In all the larger marshes, but not in open salt lakes. I shot one as far south as Ngoussa, in a watered palm-grove.

125. **Nycticorax griseus.** (Night Heron.)
In the palm-forests of Tuggurt. Probably throughout the whole of the Wed R'hir.

126. Phœnicopterus antiquorum. (Flamingo.) "*Shabroose,*" Arab.

Appears to exhibit a constant aversion to marshes or lakes partially surrounded by trees, and consequently does not occur in the Wed R'hir. A large flock were observed feeding in the open chott of Waregla. It certainly does not breed there.

127. Geronticus comatus. (Bald Ibis.)

This extraordinary bird I never saw during my second sojourn in Algeria; but on my first visit to the Sahara in the spring of 1856 I obtained two specimens in the rocky ridges beyond Bou Guizoun, on the road to El Aghouat. Unlike the rest of its family, it resorts only to the most arid and desolate mountain ranges, where it consorts with the raven and the falcon. Its food, as I ascertained, consists of lizards and serpents; but it is doubtless ignorant of the flavour of tailless Batrachians. It breeds in inaccessible holes of the precipices, which I was unable to reach, though I saw the birds going in and out. Capt. Dastugue of the French 'Génie,' showed me a coarse egg of a deep blue colour, almost the size of that of the Common Heron, which he believed to be the egg of this bird. It does not appear to be gregarious. The bright red legs and feet of a fresh-killed specimen are peculiarly coarse and rough in the scales, adapted evidently for rocks and sand, rather than mud and water. The bare portion of the head and neck is, as well as the bill, of a brilliant crimson.

128. Falcinellus igneus. (Glossy Ibis.) "*Maâzet et Mâ*" (Devil Crow), Arab.

Two or three of these birds were seen with the Little Egrets at Tuggurt. They are nowhere common.

129. Eudromias morinellus. (Common Dotterel.) "*El Mohr*" (rich), Arab.

Vast flocks of Dotterels in winter plumage occurred frequently during our wanderings wherever Lalpha (*Andropogon*) or other desert vegetation harboured beetles. They were very tame, and in good condition. It is of course only a winter visitant.

130. Ægialites cantianus. (Kentish Plover.)

One of the most universally distributed denizens of the Sahara, to be found running rapidly along the sand by all the chotts and sebkhas in parties of from two to eight. It breeds everywhere, but, unlike our Ring-Plover, appears to lay only three eggs, which are placed on the level sand, without the precaution of even selecting the impress of a camel's foot.

131. Ægialites minor. (Little Ring-Plover.)

As universally distributed, but not nearly so abundant, as the last-mentioned. There seems to be this distinction in their habits, that the Little Plover resorts rather to the weds and dry water-courses than to the open salt-lakes. In winter plumage it is very difficult to discriminate between a large series of these two birds.

132. Cursorius gallicus. (Cream-coloured Courser.) "*Song el Ibel*" ("Camel-pricker"), Arab.

From the small number we observed during winter, I am inclined to believe that even in the southern desert the greater portion migrate. See 'Ibis,' vol. i. pp. 79, 354.

133. Vanellus cristatus. (Lapwing.) "*Bibeth,*" Arab.

A few penetrate as far as the Chamba country, where I shot them in December. Not even a straggler remains in Northern Algeria after March.

134. Glareola pratincola. (Collared Pratincole.)

Extremely abundant whether near marshes or lakes. Found at Aïn el Ibel, Western Algeria, in October, and breeding in the same district in June, as well as the following year throughout the Eastern district. See 'Ibis,' vol. i. p. 354.

135. Himantopus melanopterus. (Black-winged Stilt.)

Resorts to the ditches of the oases in winter. Breeds at El Aghouat, but more abundantly in the Northern Sahara. See 'Ibis,' vol. i. p. 355.

136. Recurvirostra avocetta. (Avocet.)

A few observed at Tuggurt in January.

137. Gallinago media. (Common Snipe.)

In ditches and marshes everywhere in winter.

138. Gallinago gallinula. (Jack Snipe.)

One shot by my companion in the Wed R'hir.

139. Machetes pugnax. (Ruff.)

I shot a solitary Reeve at Tuggurt in December, the only one I ever saw south of the Atlas. It is a common winter visitant in the Tell.

140. Tringa alpina. (Dunlin.)

Common in winter on the shores of the salt-lakes.

141. Tringa temminckii. (Temminck's Stint.)

Extremely common in winter. I never saw *Tringa minuta*, which has been found by Capt. Loche.

142. Gambetta calidris. (Redshanks.)

Not unfrequent.

143. Totanus ochropus. (Green Sandpiper.)

Universally distributed throughout the winter, and by far the most common of the class. Not a ditch or a pond in a palm garden without its pair, but never more than two together. We found it at Zana to the end of June.

144. Totanus glareola. (Wood Sandpiper.)

Far less frequent than the last, but by no means rare. In similar localities, but also occasionally in open marshes.

145. Tringoides hypoleucus. (Common Sandpiper.)

Not unfrequent about Tuggurt, Ngoussa, and Waregla.

146. Numenius tenuirostris. (Slender-billed Curlew.)

I saw one shot by a French officer at Oumache, near Biskra.

147. Rallus aquaticus. (Water Rail.)

One procured in November in a pond at El Aghouat.

148. Gallinula bailloni. (Baillon's Crake.)

In the reeds at Tamerua, Wed R'hir.

149. Porphyrio hyacinthinus. (Great Purple Gallinule.)

At Tuggurt, but scarce. Far more abundant in the northern lakes. In corroboration of its carnivorous character, I may mention that I saw one in the yard of General Yussuf seize a young duckling in its huge foot and crush its head with its bill, after which it ate the brains and left the rest of the carcase untouched.

150. Fulica atra. (Common Coot.) "*Ghorra,*" Arab.
Common about Tuggurt. Its congener, *Fulica cristata,* appears to be confined to a few northern lakes on this side the Atlas.

151. Anser segetum. (Bean Goose.) "*Onza,*" Arab.
I saw one at Temaçin recently shot.

152. Casarca rutila. (Ruddy Shieldrake.)
Hundreds of these birds resort to the salt-lakes of Bou Guizoun, Waregla, Tuggurt, &c. At Bou Guizoun I captured some half-dozen nestlings of various ages in the downy state, some of them scarcely more than a day old; and yet the only place where they could possibly have bred, and where we had procured a nest three days previously, was a range of cliffs more than twelve miles distant. This was in May 1856.

153. Tadorna vulpanser. (Common Shieldrake.)
A few at Tuggurt, but not nearly so abundant as *Casarca rutila.* Elsewhere I did not observe it until our arrival at Djendeli.

154. Anas boschas. (Common Wild Duck.)

155. Chaulelasmus streperus. (Gadwall.)

156. Rhynchaspis clypeata. (Shoveller.)

157. Querquedula crecca. (Teal.)

158. Dafila acuta. (Pintail.)

159. Mareca penelope. (Wigeon.)
All of these were more or less frequent wherever there was water.

160. Fuligula cristata. (Tufted Duck.)
In immense numbers on all the lakes.

161. Fuligula ferina. (Pochard.)
Large flocks near Tuggurt.

162. Nyroca leucophthalma. (White-eyed Duck.)
Very common both in lakes and ditches.

163. Callichen rufina. (Red-crested Whistling Duck.)
Occasionally procured in the Wed R'hir and at El Aghouat.

164. Erismatura mersa. (White-headed Duck.)

In the lake of Bou Guizoun, June 1856; Tuggurt, December 1856.

165. Gelochelidon anglica. (Gull-billed Tern.)

Occurs in flocks both in the Western and Eastern Sahara. Several shot at Bou Guizoun, and near Aïn el Ibel, on the El Aghouat route, and vast flocks met with round the Zahrez, in the same country. We found it also breeding at Zana the following spring.

166. Sterna minuta. (Least Tern.)

Occurred at Bou Guizoun. Not plentiful.

167. Hydrochelidon nigra. (Black Tern.)

Resorts to various salt-lakes. I only met with it in the Western Sahara.

168. Hydrochelidon leucoptera. (White-winged Black Tern.)

More widely distributed than the last-named.

169. Hydrochelidon hybrida. (Whiskered Tern.)

Abundant on most of the salt-lakes, but never observed in company with the *H. leucoptera.* It is in the habit of following the labourers in the oases in the barley patches in pursuit of insects.

170. Podiceps cristatus. (Great Crested Grebe.)

Observed once at Tuggurt. Apparently only a solitary straggler.

171. Podiceps auritus. (Eared Grebe.)

In the lakes of the Wed R'hir.

172. Podiceps minor. (Little Grebe.)

Common in the Northern Sahara.

None of the Grebes were noted by me in the South, even in the most suitable localities.

I here conclude my catalogue of the birds of the Sahara; and though I fear the readers of 'The Ibis' will have found my long-drawn story as dry as the desert which has produced it, I cannot presume to think that it is by any means complete. I have confined myself to the birds which fell under my own observation in a period of two years, of which only a portion was spent in the true Desert. When again I glance at the list of Waders, and see how many species Capt. Loche has been able to include as winter visitants to the Tell, many of whom, we may fairly presume, straggle into the Desert, I am fully conscious of my deficiencies.

It will be noted that most of the rarest and most interesting forms occurred only in the extreme south, where, from the danger of wandering far from camp, and from the rapidity with which we were often compelled to travel, many species might have been overlooked. To naturalize perseveringly in a desert is no easy task, especially when at a distance from water; for the delay of a day may prove death to a whole caravan. The further we penetrated south and east, Nubian and Abyssinian types more frequently occurred, and the scarcer the European forms became. After the information collected by Rüppell, Heuglin and others on the Ornithology of Eastern Africa, we can scarcely anticipate the discovery of many new species in the still unexplored Touareg country. But the western limits of the Nubian fauna is a problem still unsolved; and for its solution we need a careful observation of the birds on the route from Tripoli to the Soudan *viâ* R'hedames. I believe it will be found that at Waregla we bid adieu to European species, except as winter visitants, and enter upon the Ethiopian zone. The Sahara is the debateable land between the two; and its southern portion is adapted for the existence of but few of our European forms.

VIII.—*Note on the Migratory Habits of the Song Thrush* (Turdus musicus). By Alfred Newton, M.A., F.L.S., F.Z.S.

Mr. Tomes, in his excellent paper on White's Thrush in the last Number of 'The Ibis' (1859, p. 379), speaks of the Song Thrush (*Turdus musicus*) as having "resident habits," and possessing "organs of flight not adapted for migration." Now, without pausing to inquire whether the words "resident" and "migratory" do not in most (if not in all) cases refer to special localities, and also whether we may not be confusing two very